THE CLAIMS

What is claimed is:

- 1. A micro-fabricated chip, comprising:
 - a stationary structure; and
- a movable structure having a gimbal structure, the gimbal structure allowing pitch and roll motion of the movable structure with respect to the stationary structure.
- 2. The micro-fabricated chip according to claim 1, wherein the gimbal structure includes a dimple surface making a rolling-type contact with the stationary structure.
- 3. The micro-fabricated chip according to claim 2, wherein the gimbal structure includes a center bar and a plurality of bar members, each bar member having a first end that is attached to the center bar member and a second end that is attached to the stationary structure.
- 4. The micro-fabricated chip according to claim 1, wherein the gimbal structure includes a plurality of torsion bar members allowing the pitch and roll motion of the movable structure with respect to the stationary structure.
- 5. The micro-fabricated chip according to claim 1, wherein the gimbal structure includes a plurality of flexible members allowing the pitch and roll motion of the movable structure with respect to the stationary structure.
- 6. The micro-fabricated chip according to claim 1, further comprising a limiter structure having an in-plane structure and an out-of-plane structure, the limiter structure limiting movement of the movable structure away from the stationary structure by a predetermined distance.

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- 7. The micro-fabricated chip according to claim 1, wherein the micro-fabricated chip is a passive chip structure.
- 8. The micro-fabricated chip according to claim 1, wherein the micro-fabricated chip is a microactuator.
- 9. The micro-fabricated chip according to claim 8, wherein the movable structure moves in a rotational direction with respect to the stationary structure.
- 10. The micro-fabricated chip according to claim 8, wherein the movable structure moves in a translational direction with respect to the stationary structure.
 - 11. A suspension for a disk drive, comprising:a load beam;
- a micro-fabricated chip having a stationary structure and a movable structure having a gimbal structure, the stationary structure being attached to the load beam and the gimbal structure allowing pitch and roll motion of the movable structure with respect to the stationary structure; and a slider attached to the movable structure.
- 12. The suspension according to claim 11, wherein the gimbal structure includes a dimple surface making a rolling-type contact with the stationary structure.
- 13. The suspension according to claim 12, wherein the gimbal structure includes a center bar and a plurality of bar members, each bar member having a first end that is attached to the center bar member and a second end that is attached to the stationary structure.

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- 14. The suspension according to claim 11, wherein the gimbal structure includes a plurality of torsion bar members allowing the pitch and roll motion of the movable structure with respect to the stationary structure.
- 15. The suspension according to claim 11, wherein the gimbal structure includes a plurality of flexible members allowing the pitch and roll motion of the movable structure with respect to the stationary structure.
- 16. The suspension according to claim 11, wherein the micro-fabricated chip further includes a limiter structure having an in-plane structure and an out-of-plane structure, the limiter structure limiting movement of the movable structure away from the stationary structure by a predetermined distance.
- 17. The suspension according to claim 11, wherein the micro-fabricated chip is a passive chip structure.
- 18. The suspension according to claim 11, wherein the micro-fabricated chip is a microactuator.
- 19. The suspension according to claim 18, wherein the movable structure and the slider move in a rotational direction with respect to the stationary structure.
- 20. The suspension according to claim 18, wherein the movable structure moves in a translational direction with respect to the stationary structure.

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21. The suspension according to claim 11, further comprising a flexible cable that is directly attached to the load beam without mechanical compliance and forms at least one electrical connection to the micro-fabricated chip.

22. A disk drive, comprising:

a suspension having a load beam;

a micro-fabricated chip having a stationary structure and a movable structure having a gimbal structure, the stationary structure being attached to the load beam and the gimbal structure allowing pitch and roll motion of the movable structure with respect to the stationary structure; and a slider attached to the movable structure.

- 23. The disk drive according to claim 22, wherein the gimbal structure includes a dimple surface making a rolling-type contact with the stationary structure.
- 24. The disk drive according to claim 23, wherein the gimbal structure includes a center bar and a plurality of bar members, each bar member having a first end that is attached to the center bar member and a second end that is attached to the stationary structure.
- 25. The disk drive according to claim 22, wherein the gimbal structure includes a plurality of torsion bar members allowing the pitch and roll motion of the movable structure with respect to the stationary structure.
- 26. The suspension according to claim 22, wherein the gimbal structure includes a plurality of flexible members allowing the pitch and roll motion of the movable structure with respect to the stationary structure.

- 27. The disk drive according to claim 22, wherein the micro-fabricated chip further includes a limiter structure having an in-plane structure and an out-of-plane structure, the limiter structure limiting movement of the movable structure away from the stationary structure by a predetermined distance.
- 28. The disk drive according to claim 22, wherein the micro-fabricated chip is a passive chip structure.
- 29. The disk drive according to claim 22, wherein the micro-fabricated chip is a microactuator.
- 30. The disk drive according to claim 29, wherein the movable structure and the slider move in a rotational direction with respect to the stationary structure.
- 31. The disk drive according to claim 29, wherein the movable structure moves in a translational direction with respect to the stationary structure.
- 32. The disk drive according to claim 22, further comprising a flexible cable that is directly attached to the load beam without mechanical compliance and forms at least one electrical connection to the micro-fabricated chip.